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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,025	12/02/2003	Nabil Seddigh	TR-176-US	4722

36630 7590 09/20/2007

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ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
09/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,025	SEDDIGH ET AL.	
	Examiner	Art Unit	
	David S. Kim	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8-10,13-20 and 22-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-10,13-20 and 22-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Applicant's response to the objections to **claims 1, 16, and 22-25** in a previous Office Action (Final Rejection mailed on 01 June 2007) is noted and appreciated. Applicant's amendments since this previous Office Action overcome the previous objections, which are presently withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1-5, 8-10, 13-20, and 22-29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-5, 8-10, 13-20, and 22-29 are also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In particular, notice the following limitations in independent claims 1 and 16:

(**claim 1**) "executing a first procedure for identifying a first sequence of optical nodes currently receiving said optical signature based on identifying said optical signature in the optical domain ***without optical-to-electrical conversion***" (emphasis Examiner's).

(**claim 16**) "a first means for identifying a first sequence of optical nodes currently receiving said optical signature ***without optical-to-electrical conversion***" (emphasis Examiner's).

Applicant's specification further explains this optical signature in paragraph [0027]. Paragraph [0027] does not support the processing of this optical signature *without optical-to-electrical conversion*. Rather, paragraph [0027] supports the detection of this optical signature *without* ***optical-to-electrical-***

to-optical *conversion*. Moreover, paragraph [0027] implies the detection of this optical signature with the use of "inexpensive decoders present on line cards", which are understood to operate in the electrical domain, which implies some *optical-to-electrical conversion* of the optical signal on the light path. Furthermore, paragraph [0027] points to three U.S. patent applications (09/963,501; 10/263,959; 10/452,511) and one U.S. patent (6,597,161) for more disclosure about this optical signature. None of these four documents support the processing of this optical signature *without* ***optical-to-electrical*** *conversion*. Rather, they all disclose processing this optical signature ***with*** *optical-to-electrical conversion*. In U.S. Patent Application No. 09/963,501, notice optical detector 70 in Fig. 4, which performs *optical-to-electrical conversion*. In U.S. Patent Application No. 10/263,959, notice optical detector 64 in Fig. 5, which performs *optical-to-electrical conversion*. In U.S. Patent Application No. 10/452,511, notice optical detector 40 in Fig. 3, which performs *optical-to-electrical conversion*. In U.S. Patent No. 6,597,161, notice photodiode 30 in Fig. 2, which performs *optical-to-electrical conversion*. Accordingly, the cited limitations above from claims 1 and 16 constitute **new matter**. As Applicant's disclosure also does not show how to process this optical signature *without optical-to-electrical conversion*, the cited limitations above from claims 1 and 16 are also **not enabled**. As a remedy, Examiner respectfully suggests Applicant to amend the claim language by removing the phrase "without optical-to-electrical conversion".

4. **Claims 16-20 and 22-29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, notice the following limitation in independent claim 16:

"without resorting to a ***baseband*** management system" (emphasis Examiner's).

However, Applicant's disclosure does not discuss a *baseband* management system. Rather, it discusses a network management system (Applicant's specification, paragraph [0004]). Accordingly, a "baseband management system" constitutes new matter. As a remedy, Examiner respectfully suggests

Applicant to amend the claim language by replacing "baseband management system" with "network management system".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1-3, 8-10, 14-18, 22-26, and 28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heismann et al. ("Signal tracking and performance monitoring in multi-wavelength optical networks", hereinafter "Heismann") in view of the Admitted Prior Art (hereinafter the "APA") and Rajagopal et al. (U.S. Patent No. 7,120,118 B2, hereinafter "Rajagopal").

Regarding claim 1, Heismann discloses:

A method for monitoring a light path between a source optical node and a destination optical node (source-destination pair in Fig. 1a) in an Optical Communication Network (OCN) comprising a plurality of optical nodes where at least two nodes are interconnected (notice the plurality of interconnected nodes in Fig. 1a), the method comprising the steps of:

modulating a wavelength with an optical signature detectable in the optical domain, the optical signature defining said light path (ID Tag in Fig. 1a).

Heismann does not expressly disclose:

said at least two nodes are interconnected by optical supervisory channels.

However, optical supervisory channels are known in the art, as shown by the APA (OSC in Fig. 1). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include these features in the method of Heismann. One of ordinary skill in the art would have been motivated to do this since they are common means for providing ordinary network management through the exchange of control messages across the optical supervisory channels (APA, p. 9, l. 2-4).

Heismann in view of the APA does not expressly disclose:

the method comprising the steps of:

executing a first procedure for identifying a first sequence of optical nodes currently receiving said optical signature based on identifying said optical signature in the optical domain;

executing a second procedure for identifying a second sequence of optical nodes provisioned to form said light path between the source node and the destination node;

executing a third procedure based on a step of flooding of enquiry messages for identifying each optical node in said plurality of optical nodes, including optical nodes extraneous to a planned trajectory, that detects said optical signature; and

executing a fourth procedure for identifying each optical node from among said at least two optical nodes that detects said optical signature;

wherein said first procedure, second procedure, third procedure, and fourth procedure are initiated at a command-line interface of a selected start optical node determined to be belong to said light path without resorting to a network management system.

However, it is known to perform similar procedures to monitor a path in a communication network, as shown by Rajagopal (e.g., multi-path analysis in col. 1, l. 7-10). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement further procedures in the method of Heismann, such as the procedures of Rajagopal. One of ordinary skill in the art would have

been motivated to do this since Heismann is focused on a particular technique of tracking an optical signal and is relatively silent about how to incorporate this technique in the more general management of a communication network. Rajagopal speaks into this silence by providing procedures that incorporate signal/path tracking information into other management aspects of a communication network (e.g., identification of current paths in Figs. 2 and 5 to determine alternate paths).

Accordingly, Heismann in view of the APA and Rajagopal would further disclose:
the method comprising the steps of:

executing a first procedure for identifying a first sequence of optical nodes currently receiving said optical signature based on identifying said optical signature in the optical domain (identification of current paths in col. 4, l. 29-43 of Rajagopal with the optical signal tracking information in p. 3.48, first paragraph, of Heismann);

executing a second procedure for identifying a second sequence of optical nodes provisioned to form said light path between the source optical node and the destination optical node (block 212 in Fig. 2 of Rajagopal);

executing a third procedure based on a step of flooding of enquiry messages for identifying each optical node in said plurality of optical nodes, including optical nodes extraneous to a planned trajectory, that detects said optical signature (block 502 in Fig. 5B applies to all current paths; block 502 is described in col. 7, l. 34-39, and this refers to block 200 in Fig. 2; block 200 may employ flooding of messages to all other nodes as described in col. 4, l. 36-43, and "all other nodes" would include optical nodes extraneous to any particular planned trajectory; these teachings of Rajagopal are implemented with the optical signal tracking information in p. 3.48, first paragraph, of Heismann); and

executing a fourth procedure for identifying each optical node from among said at least two optical nodes that detects said optical signature (block 502 in Fig. 5B includes the procedure of identifying individual paths as in col. 7, l. 36-39 of Rajagopal with the optical signal tracking information in p. 3.48, first paragraph, of Heismann);

wherein said first procedure, second procedure, third procedure, and fourth procedure are initiated at a selected start optical node determined to be belong to said light path (Rajagopal, e.g., traffic management nodes (TMNs) provide monitoring step, all paths are monitored in block 200 in Fig. 2, one of these paths would include a TMN start node where the monitoring step is invoked) without resorting to a network management system (this limitation appears to mean at least "not based on any centralized global knowledge" in paragraph [0007] in Applicant's specification; notice that Rajagopal teaches a decentralized embodiment in col. 3, l. 58-59 that reads on this limitation).

Heismann in view of the APA and Rajagopal does not disclose:

wherein said first procedure, second procedure, third procedure, and fourth procedure are initiated at a ***command-line interface*** of a selected start optical node determined to be belong to said light path.

Regarding the command-line interface limitation, notice that Rajagopal's method is realized in computer hardware, firmware, software, or combinations thereof (col. 11, l. 63-67). A command line interface is an obvious limitation for Rajagopal's method since it is an extremely common way for a practitioner to interface with a computer program, which is generally realized in computer hardware, firmware, software, or combinations thereof.

Regarding claim 2, Heismann in view of the APA and Rajagopal discloses:

The method of claim 1 wherein the step of executing said first procedure comprises the step of:

constructing a current list of optical nodes comprising said first sequence of optical nodes (Rajagopal, e.g., identification of current paths in 200 in Fig. 2).

Heismann in view of the APA and Rajagopal does not expressly disclose:

displaying said list of optical nodes.

However, displaying such information is an obvious technique so that a practitioner can follow the progression of the method.

Regarding claim 3, Heismann in view of the APA and Rajagopal discloses:

The method of claim 2, wherein the step of constructing the current list of optical nodes comprises the steps of:

monitoring said light path between the source optical node and the destination optical node from said selected start optical node (Heismann, light path and optical nodes in Fig. 1(a); Rajagopal, e.g., traffic management nodes (TMNs) provide monitoring step, all paths are monitored in block 200 in Fig. 2, one of these paths would include a TMN start node where the monitoring step is invoked).

Heismann in view of the APA and Rajagopal does not expressly disclose:

constructing a first list of optical nodes that are currently traversed in sequence by the light path from said selected start optical node to the source optical node; and

constructing a second list of nodes that are currently traversed in sequence by the light path from said selected start optical node to the destination node.

However, such lists would be obvious features to add. That is, consider the common diagnostic feature of determining one's location in the network or one's location along a path. One list from the selected start optical node to the source optical node would provide one's location with respect to the source optical node. Similarly, one list from the selected start optical node to the destination optical node would provide one's location with respect to the destination optical node.

Regarding claim 8, Heismann in view of the APA and Rajagopal discloses:

The method of claim 1 wherein said second procedure comprises the steps of:

constructing a third list of optical nodes that are provisioned to be on the light path from the selected start optical node to the source optical node (Rajagopal, e.g., col. 8, l. 28-29, TMN 3 as start node and TMN 6 as source node; these nodes will process the optical signature of Heismann for tracking); and

constructing a fourth list of optical nodes that are provisioned to be present on the light path from the selected start node to the destination optical node (Rajagopal, e.g., col. 8, l. 30, TMN 3 as start node and TMN 8 as destination node; these nodes will process the optical signature of Heismann for tracking).

Regarding claim 9, Heismann in view of the APA and Rajagopal discloses:

The method of claim 8, wherein the step of constructing said third list comprises the step of identifying optical nodes that are provisioned to process said optical signature (Rajagopal, e.g., if the nodes between TMN 3 and TMN 6 of col. 8, l. 28-39 become part of a new path, they will process the optical signature of Heismann for tracking).

Regarding claim 10, Heismann in view of the APA and Rajagopal discloses:

The method of claim 8, wherein the step of constructing said fourth list comprises the step of identifying optical nodes that are provisioned to process said optical signature (Rajagopal, e.g., if the nodes between TMN 3 and TMN 8 of col. 8, l. 28-39 become part of a new path, they will process the optical signature of Heismann for tracking).

Regarding claim 14, Heismann in view of the APA and Rajagopal discloses:

The method of claim 1 wherein said fourth procedure (block 502 in Fig. 5B includes the procedure of identifying individual paths as in col. 7, l. 36-39 of Rajagopal with the optical signal tracking information in p. 3.48, first paragraph, of Heismann) comprises the steps of:

constructing a specific list of optical nodes which detect said optical signature (Heismann, optical signal tracking information in p. 3.48, first paragraph) in response to a process of neighbour discovery (Rajagopal, the procedure of identifying individual paths as in col. 7, l. 36-39 includes constructing specific lists of optical nodes; this procedure may use the types of methods used in connection with block 200 of Fig. 2, and col. 4, l. 40-42 employs neighbor discovery).

Heismann in view of the APA and Rajagopal does not expressly disclose:

displaying a list of nodes traversed by the light path.

However, displaying such information is an obvious technique so that a practitioner can follow the progression of the method.

Regarding claim 15, Heismann in view of the APA and Rajagopal discloses:

The method of claim 14 wherein the step of constructing said specific list of optical nodes comprises the step of:

sending a message to each neighbouring optical node (Rajagopal, col. 4, l. 40-42), said message requesting:

confirmation of detecting said optical signature (echo-back of col. 4, l. 40-42 of Rajagopal with the optical signal tracking information in p. 3.48, first paragraph, of Heismann); and

relaying said message to another optical node (each TMN sends out its own discover paths echo-back message to all other TMNs in col. 4, l. 40-42).

Heismann in view of the APA and Rajagopal does not expressly disclose:

sending a message to each neighbouring optical node ***discovered via topology information.***

Regarding the nodes discovered via topology information, it is obvious for a discovery procedure to discover the nodes via topology information since such information conventionally identifies nodes in a network, including neighboring nodes.

Regarding claims 16-18, claims 16, 17, and 18 are system claims that introduce limitations that correspond to the limitations introduced by method claims 1, 2, and 3, respectively. Therefore, the recited steps in method claims 1-3 read on the corresponding means in system claims 16-18.

Regarding claim 22, Heismann in view of the APA and Rajagopal discloses:

The system of claim 16 wherein the second means comprises:

means for constructing a list of optical nodes (Rajagopal, e.g., list of nodes of detour/alternate paths in 212 of Fig. 2; these nodes will process the optical signature of Heismann for tracking) that are provisioned to process said optical signature.

Heismann in view of the APA and Rajagopal does not expressly disclose:

means for displaying said lists of optical nodes.

However, displaying such information is an obvious technique so that a practitioner can follow the progression of the method.

Regarding claims 23-25, claims 23, 24, and 25 are system claims that introduce limitations that correspond to the limitations introduced by method claims 8, 9, and 10, respectively. Therefore, the recited steps in method claims 8-10 read on the corresponding means in system claims 23-25.

Regarding claim 26, Heismann in view of the APA and Rajagopal discloses:

The system of claim 26 wherein said third means comprises:

means for flooding enquiry messages into the optical communication network (block 502 in Fig. 5B applies to all current paths; block 502 is described in col. 7, l. 34-39, and this refers to block 200 in Fig. 2; block 200 may employ flooding of messages to all other nodes as described in col. 4, l. 36-43, and "all other nodes" would include optical nodes extraneous to any particular planned trajectory; these teachings of Rajagopal are implemented with the optical signal tracking information in p. 3.48, first paragraph, of Heismann).

Heismann in view of the APA and Rajagopal does not expressly disclose:

means for displaying a list of optical nodes which detect said optical signature in response to said enquiry messages.

However, displaying such information is an obvious technique so that a practitioner can follow the progression of the method.

Regarding claims 28-29, claims 28 and 29 are system claims that introduce limitations that correspond to the limitations introduced by method claims 14 and 15, respectively. Therefore, the recited steps in method claims 14-15 read on the corresponding means in system claims 28-29.

8. **Claims 4-5, 13, 19-20, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heismann in view of the APA and Rajagopal as applied to the claims above, and further in view of Sengupta et al. ("From network design to dynamic provisioning and restoration in optical cross-connect mesh networks: an architectural and algorithmic overview", hereinafter "Sengupta").

Regarding claims 4-5, Heismann in view of the APA and Rajagopal does not expressly disclose:

(claim 4) The method of claim 3, wherein the step of constructing said first list comprises the step of identifying all optical nodes pre-provisioned to be on the light path that have detected and processed said optical signature.

(claim 5) The method of claim 3 wherein the step of constructing said second list comprises the step of identifying all optical nodes pre-provisioned to be on the light path that have detected and processed said optical signature.

However, the practice of pre-provisioning lightpaths and nodes on these lightpaths through a signature that uniquely identifies the light path is known in the art, as shown by Sengupta (Fig. 3, section "Lightpath Establishment" on p. 50-51, bridging paragraph, notice the label request in Fig. 3 and the "path identifier" on p. 51, col. 1, 1st full paragraph). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include such a practice in the method of Heismann in view of the APA and Rajagopal. One of ordinary skill in the art would have been motivated to do this to prepare these nodes for the establishment of the light path through them (Sengupta, p. 49, col. 2, section "Lightpath establishment").

Regarding claim 13, Heismann in view of the APA, Rajagopal, and Sengupta does not expressly disclose:

The method of claim 12 wherein the step of flooding comprises the steps of:

sending messages to optical nodes in said plurality of optical nodes, including optical nodes extraneous to said planned trajectory, requesting confirmation of detecting said optical signature.

Regarding the sending messages limitation and the requesting limitation, Sengupta teaches sending messages to some optical nodes enquiring whether they have processed a signature corresponding to a light path (Sengupta, Fig. 3, section "Lightpath Establishment" on p. 50-51, bridging paragraph, notice the label request in Fig. 3 and the "path identifier" on p. 51, col. 1, 1st full paragraph) and requesting some nodes that have detected the signature to reply back with an affirmative acknowledgement (Sengupta, label response in Fig. 3). As this step of Rajagopal generally applies to all nodes (Rajagopal, flooding of messages to all nodes as described in col. 4, l. 36-43) in a network, it follows

that it would be obvious to apply Sengupta's teachings to all the nodes in the network, including optical nodes extraneous to any particular planned trajectory.

Regarding claims 19-20, claims 19 and 20 are system claims that introduce limitations that correspond to the limitations introduced by method claims 4 and 5, respectively. Therefore, the recited steps in method claims 4-5 read on the corresponding means in system claims 19-20.

Regarding claim 27, Heismann in view of the APA, Rajagopal, and Sengupta does not expressly disclose:

The system of claim 26 wherein the means for flooding comprises:

means for retrieving a list of all optical nodes in the plurality of optical nodes; and

means for sending messages to said all the optical nodes, including optical nodes extraneous to said planned trajectory, requesting confirmation of detecting said optical signature.

Regarding the retrieving limitation, consider the known practice of performing global discovery to retrieve a list of all optical nodes in an optical communication network. One of ordinary skill in the art would have been motivated to do this so that one can know which network elements (e.g., nodes) exist in the network.

Regarding the sending messages limitation and the requesting limitation, Sengupta teaches sending messages to some optical nodes enquiring whether they have processed a signature corresponding to a light path (Sengupta, Fig. 3, section "Lightpath Establishment" on p. 50-51, bridging paragraph, notice the label request in Fig. 3 and the "path identifier" on p. 51, col. 1, 1st full paragraph) and requesting some nodes that have detected the signature to reply back with an affirmative acknowledgement (Sengupta, label response in Fig. 3). As this step of Rajagopal generally applies to all nodes (Rajagopal, flooding of messages to all nodes as described in col. 4, l. 36-43) in a network, it follows that it would be obvious to apply Sengupta's teachings to all the nodes in the network, including optical nodes extraneous to any particular planned trajectory.

Response to Arguments

9. Applicant's arguments filed on 03 September 2007 have been fully considered but they are not persuasive. Applicant presents three points.

Regarding the first point, Applicant discusses the lack of misrouted paths in the prior art of record (REMARKS/ARGUMENTS, p. 9). It appears that Applicant intends these misrouted paths to be contained in the following claim limitations:

In independent claim 1:

(1) "to ascertain adherence of said light path to a planned trajectory and detect deviation of said light path from the planned trajectory"; and

(3) "including optical nodes extraneous to said planned trajectory".

In independent claim 16:

(1) "to detect deviation of said light path from a planned trajectory"; and

(3) "including optical nodes extraneous to said planned trajectory".

However, notice that limitation (1) of claims 1 and 16 is located in the preamble. Limitation (1) has not been given patentable weight because it occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Limitation (3) is the only portion of claims 1 and 16 that appears in the body of the claim that actually includes any portion of limitation (1). However, limitation (3) only includes "a planned trajectory" from limitation (1). Accordingly, only this portion of limitation (1) (i.e., "a planned trajectory") has been given any patentable weight. Furthermore, notice that "a planned trajectory" does not limit the claims to "misrouted path". Therefore, as the claims do not include any other limitations detailing "misrouted

paths", it follows that the body of the claims do not actually contain the subject matter of "misrouted paths". Thus, Applicant's point about "misrouted paths" is not persuasive.

As a remedy, Examiner respectfully suggests the inclusion of claim language that captures the subject matter of "misrouted paths" into the ***body*** of the claims. However, Examiner cautions that simply moving limitation (1) above into the body of the claims may not be sufficiently limiting. That is, notice that limitation (1) above is not an active ***method step*** or a concrete ***apparatus element*** but, rather, just an intended conclusion or intended effect. In other words, simply including "to ascertain adherence of said light path to a planned trajectory and detect deviation of said light path from the planned trajectory" is merely an intended conclusion from the operation of the method of claim 1. A more precise and effective expression of this subject matter would be to provide an actual method ***step*** into the body of the claim that directly correlates to this conclusion. For example, what ***step*** is actually performed that translates into this conclusion? Similarly, simply including "to detect deviation of said light path from a planned trajectory" is merely an intended effect from the operation of the apparatus of claim 16. A more precise and effective expression of this subject matter would be to provide an actual apparatus ***element*** into the body of the claim that directly correlates to this effect. For example, what ***element*** actually achieves this effect? Examiner respectfully encourages Applicant to amend the claim language in a way that sufficiently addresses these concerns.

Regarding the second point, Applicant presents the following claim limitations (REMARKS/ARGUMENTS, p. 11 and 12):

In independent claim 1:

(2) "based on identifying said optical signature in the optical domain without optical-to-electrical conversion".

In independent claim 16:

(2) "without optical-to-electrical conversion".

Notice the new grounds of rejection under 35 U.S.C. 112, first paragraph, that address this limitation. Accordingly, Applicant's point is not persuasive.

Regarding the third point, Applicant presents the following claim limitations (REMARKS/ARGUMENTS, p. 11 and 12):

In independent claim 1:

(4) "without resorting to a network management system".

In independent claim 16:

(4) "without resorting to a baseband management system".

Notice that limitation (4) in claim 1 appears to mean at least "not based on any centralized global knowledge" in paragraph [0007] in Applicant's specification. Notice that Rajagopal teaches a decentralized embodiment in col. 3, l. 58-59 that reads on this limitation. Accordingly, Applicant's point is not persuasive.

Also, notice the new grounds of rejection under 35 U.S.C. 112, first paragraph, that address limitation (4) in claim 16. Accordingly, Applicant's point is not persuasive.

Summarily, Applicant's arguments are not persuasive. Accordingly, Examiner respectfully maintains the standing rejections.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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DSK

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER